FILE 'CAPLUS, MEDLINE, BIOSIS, CA, SCISEARCH, EMBASE' ENTERED AT 09:05:58 ON 26 APR 2004

L1 31193 S (TROPHOBLAST? (W) DISEASE) OR CHORIOCARCINOMA OR (HYDATIDIFOR
L2 5339 S L1 (S) (DETECT? OR DETERMIN? OR DIAGNOS?)
L3 138 S (INVASIVE (W) TROPHOBLAST (W) ANTIGEN) OR (HYPERGLYCOSYLATED
L4 61 S L1 AND L3
L5 28 S L2 AND L3
L6 14 DUPLICATE REM L5 (14 DUPLICATES REMOVED)
L7 23 DUPLICATE REM L4 (38 DUPLICATES REMOVED)
L8 63 S INVASIVE (W) TROPHOB? (W) ANTIGEN
L9 23 DUPLICATE REM L8 (40 DUPLICATES REMOVED)
L10 51 S HYPERGLYCOSYLATED (W) HUMAN (W) CHORIONIC
L11 14 DUPLICATE REM L10 (37 DUPLICATES REMOVED)

FILE 'CAPLUS, MEDLINE, BIOSIS, CA, SCISEARCH, EMBASE' ENTERED AT 11:30:31 ON 26 APR 2004

L1 285 S (INVASIVE (W) TROPHOBLAST? (W) ANTIGEN) OR (HYPERGLYCOSYLATED
L2 2517013 S CANCER
L3 30 S L1 AND L2
L4 13 DUPLICATE REM L3 (17 DUPLICATES REMOVED)

L Number	Hits	Search Text	DB	Time stamp
1	1132	(invasive adj trophoblast$ adj antigen) or ita or (hyperglycosylated adj hcg) or (hyperglycosylated adj human)	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 12:09
2	4	((invasive adj trophoblast$ adj antigen) or ita or (hyperglycosylated adj hcg) or (hyperglycosylated adj human)) same cancer	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 12:09
3	59	((invasive adj trophoblast$ adj antigen) or ita or (hyperglycosylated adj hcg) or (hyperglycosylated adj human)) and cancer	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 12:09

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
1	BRS	L1	2501	(trophoblastic adj disease) or choriocarcinoma or (hydatidiform adj mole) or (invasive adj mole) or (placental adj site adj trophoblastic adj tumor)	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 08:20	
2	BRS	L2	31	(invasive adj trophoblast adj antigen) or (hyperglycosylated adj hcg)or (nicked adj hcg)	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 08:22	
3	BRS	L3	21	1 and 2	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 08:51	
4	BRS	L4	4	2.clm.	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 08:51	
5	BRS	L5	701	(detect$ or determin$ or diagnos$) same 1	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 08:52	
6	BRS	L6	657	5 and (standard or control)	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 08:53	

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
7	BRS	L7	7	2 and 6	USPAT; US-PGPUB; EPO; DERWENT	2004/04/26 08:53	

L6 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6

TI **Detection** of hCG in **trophoblastic disease**: The USA hCG Reference Service experience

AB A review. HCG is a glycoprotein hormone composed of two dissimilar subunits. This hormone is not only heterogeneous in peptide structure but also in combination of subunits and carbohydrate structure. Common hCG-related mols. include hCG, **hyperglycosylated hCG**, nicked hCG, hCG missing the .beta.-subunit C-terminal peptide, free .alpha.-subunit, free .beta.-subunit, nicked free b-subunit and urine .beta.-core fragment. This article discusses the structures these hCG-related mols. and their occurrences in early pregnancy, 7-wk to term pregnancy, hydatidiform mole (preevacuation and postevacuation), persistent gestational trophoblastic disease, choriocarcinoma and other malignancies. Multiple serum hCG tests are evaluated, and their abilities to detect the multiple hCG-related mols. are investigated. The accuracy of different serum hCG tests in detecting hCG and hCG-related mols. in patients with gestational trophoblastic diseases is evaluated. The findings of persistent low hCG values in the absence of pregnancy or an identifiable malignancy are examd. In addn., the false pos. hCG assay problem is discussed. False pos. hCG tests have led to many incidences in which gestational **trophoblastic disease** has been erroneously **diagnosed** and needlessly treated. HCG tests are identified that give a dis-proportionate no. of false pos. results. Finally, guidelines are presented for selecting an hCG test.

SO Journal of Reproductive Medicine (2002), 47(6), 433-444
CODEN: JRPMAP; ISSN: 0024-7758

AU Cole, Laurence A.; Butler, Stephen

L4 ANSWER 9 OF 13 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 4

TI Immunoassay of human chorionic gonadotropin, its free subunits, and metabolites.

AB Multiple hCG-related molecules are present in pregnancy serum and urine samples. These include nonnicked hCG (the hormone), **nicked hCG**, hyper- and hypoglycosylated hCG, hCG missing the C-terminal extension, free alpha-subunit, large free alpha-subunit, free beta-subunit, nicked free beta-subunit, and beta-core fragment. Over 100 immunoassays are sold for quantifying hCG-related molecules in serum or urine. Each measures nonnicked hCG and one of seven combinations of the other hCG-related molecules. This is the source of interassay discordance in hCG determinations. Whereas minor variations are noted in different kit results in normal pregnancy samples (more than twofold variation), much larger variations may be found in two immunoassay results in irregular gestations (spontaneous abortion, aneuploidy, preeclampsia, cancers, and trophoblast disease). Care is needed in choosing an immunoassay. What the assay measures may be more important than its cost or speed. This article reviews the structure of hCG and related molecules. It examines the stability and degradation of hCG, and recognition of hCG-related molecules by different types of immunoassay. Also reviewed are new assays for specifically detecting these other hCG-related molecules.

SO Clinical Chemistry, (Dec., 1997) Vol. 43, No. 12, pp. 2233-2243. print.
CODEN: CLCHAU. ISSN: 0009-9147.

AU Cole, Laurence A. [Reprint author]

L4 ANSWER 7 OF 13 EMBASE
on STN

TI Nicked human chorionic gonadotropin in trophoblastic disease.

AB The objectives of this study were to determine: 1) whether high proportions of nicked human chorionic gonadotropin (hCG) in serum at the time of mole evacuation and during postmolar surveillance is indicative of trophoblastic malignancy and 2) to investigate whether measurement of **nicked hCG** provides clinically more useful information in the management of patients with trophoblastic disease than does measurement of total hCG alone. 'Tumor marker' total hCG, intact hCG, and **nicked hCG** were measured in serial samples of serum from our serum bank of patients with representative types of trophoblastic disease. 'Tumor marker' hCG has been shown to measure all aspects of the hCG molecule. At the time of presentation of all 45 patients, 83.5% of hCG was intact and 16.5% was nicked. These proportions became reversed as hCG declined either spontaneously after hydatidiform mole evacuation or with chemotherapy in patients with postmolar trophoblastic tumor or with metastatic trophoblastic disease. We conclude that the proportion of **nicked hCG** compared to intact hCG increases with trophoblastic disease resolution. Measurement of **nicked hCG** adds no useful clinical information to that provided by reliable measurement of total hCG.

SO International Journal of Gynecological Cancer, (2000) 10/4 (330-335).
Refs: 11
ISSN: 1048-891X CODEN: IJGCEN

AU Kohorn E.I.; Cole L.

L4 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2

TI Detection of **cancer** and abnormal pregnancy using monoclonal antibodies specific for hCG isoforms

AB Human chorionic gonadotropin (hCG) exists in blood and urine as a variety of isoforms, one of which contains peptide bond cleavages within its beta subunit and is referred to as **nicked hCG** (hCGn). This hCGn isoform appears more prevalent in the urine of patients with certain malignancies and possibly in other diseases of pregnancy. The present invention is directed to two monoclonal antibodies to an isoform of hCGn isolated from a choriocarcinoma patient. Two-site immunometric assays have been developed using these antibodies, designated B151 and B152. The former exhibits good specificity for hCGn independent of the source of the hCGn, that form excreted by choriocarcinoma patients, or the form of hCGn from normal pregnancies. The latter antibody, B152, is uniquely sensitive to the carbohydrate moieties of choriocarcinoma hCG, nicked or non-nicked, since its recognition of ligand is dependent upon carbohydrate differences rather than differences in peptide bond. These two immunometric assays provide novel diagnostic tools based on direct measurement of these hCG isoforms.

SO PCT Int. Appl., 15 pp.
CODEN: PIXXD2

IN Krichevsky, Alexander; Birken, Steven; O'Connor, John